



UNITED STATES DEPARTMENT OF STATES
OVERSEAS BUILDINGS OPERATIONS

INDUSTRY ADVISORY PANEL

PROVIDING PLATFORMS FOR DIPLOMACY

APRIL 8, 2008

JUNE 26, 2008

SEPTEMBER 18, 2008

DECEMBER 18, 2008





UNITED STATES DEPARTMENT OF STATES
OVERSEAS BUILDINGS OPERATIONS

INDUSTRY ADVISORY PANEL

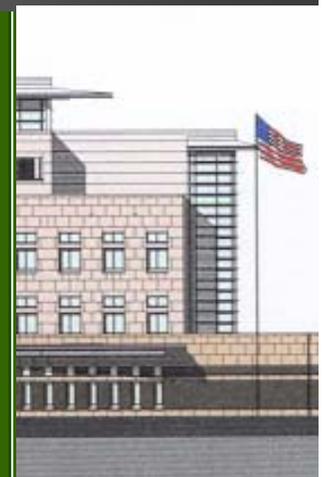
SETTING GREEN GOALS



Overseas Buildings Operations (OBO) Green Issues



1. **Setting Green Goals** – Donna McIntire & Michael Deutsch
2. **Measuring Up** – Alex Kurien & Stephanie Cutlip
3. **Getting it Done**
 - a. Existing Facilities
– Greg Krisanda & David Shaffer
 - a. New Construction
– Richard Gausseres &
– Dena Richardson
4. **Eco-Diplomacy**
– David Tessler & Edgar Dizon



Industry Advisory Panel

April 8, 2008

Energy Independence and Security Act:

signed by President Bush on Dec. 19, 2007:

- **Strengthen national security, by lessening our dependence on foreign oil;**
- **Reduce global warming;**
- **Lower energy costs for consumers;**
- **Create hundreds of thousands of new jobs and strengthens our economy.**

For OBO:

By 2011 - 4 yrs evaluate **193 Posts** (*75% of OBO's energy consumption 257 Posts*)

By 2009 - 2 yrs implement life-cycle cost effective measures for evaluated posts

Within 180 days (June 19, 2008) evaluate energy & water of **48 Posts** (*25% of 75%*)

2007 Sustainability Survey – 90 reported on energy & water

Federal Mandates:

- **EPAct 2005, Section 103 - building metering;**
- **EO 13423 - New & Renovation comply w/ MOU;**
- **EO 13423 - 15% incorporate MOU by 2015;**
- **EO 13423 - 16% water use reduction by 2015;**
- **EO 13423 & EISAct 2007 - 30% energy use reduction by 2015;**
- **EISAct 2007 - 55% energy use reduction by 2010 & 100% by 2030;**
- **EISAct 2007 - Manage stormwater to pre-developed conditions.**



Setting Green Goals Federal Mandate Targets

- Goals:**
- ✓ Reduce Energy Consumption by 30% = ~223B BTUs;
 - ✓ Reduce Water Consumption by 16% = ~229M Liters;

30% Energy Reduction by 2015

Energy	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Target	3%	3%	3%	3%	3%	3%	3%	3%
B BTU Reduction	25	25	25	25	25	25	25	25
Complete		50	75	100	125	150	175	200

Total annual consumption based on 2007 reporting = 744 B BTUs
 30% annual reduction of estimated consumption by OBO owned office facilities = 22 B BTUs
 Total of 30% reduction by 2015 = **223** B BTUs

16% Water Reduction by 2015

Water	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Target	2%	2%	2%	2%	2%	2%	2%	2%
M Liter Reduction	29	29	29	29	29	29	29	29
Complete		58	87	116	145	174	203	232

Total annual consumption based on 2007 reporting = 1,434 M Liters
 20% annual reduction of estimated consumption by OBO owned office facilities = 29 M Liters
 Total of 16% reduction by 2015 = **229** M Liters



Setting Green Goals Facility Audits & Tracking

- Goals:**
- ✓ Audit 75% of facilities = ~193 Posts for water and energy consumption;
 - ✓ Web-based Tracking;
 - ✓ 3rd Party Building Certification; and
 - ✓ 15% of facilities meet Guiding Principles = 39 NECs.

4-year Audit Cycle for 193 Posts

Post Audits	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Target	48	48	48	49	48	48	48	49
Complete	Cycle I	96	144	193	Cycle II	96	144	193

Total Posts = 257

Posts to audit in 4 year cycles (75% of 257) = 193

Posts to audit every year (1/4 of 193) = 48

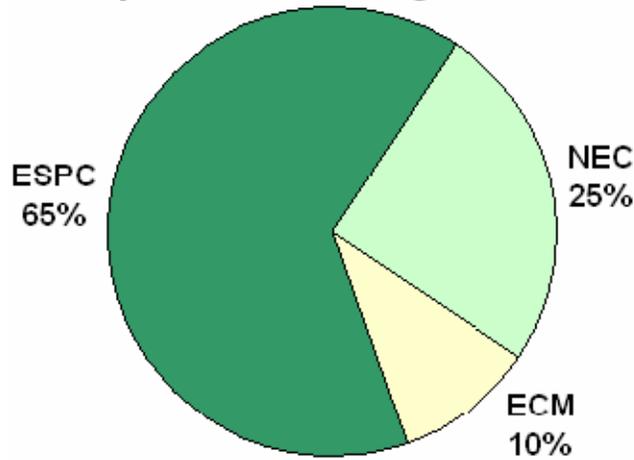
Private Sector Activity 100%

Web-Based Tracking of Utilities and Guiding Principals

Post Reporting	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15
Complete	90	167	257	257	257	257	257	257
	Total Posts =		257					

OBO Program Activity 100%

Implementation of Program Goal



Setting Green Goals Project Implementation

Project Implementation

								Total Projects	257	
ECM (10%)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15		
Target	2	2	4	4	4	4	4	4		
Complete		4	8	12	16	20	24	28		
									% of Program Goal - Energy Conservation Measures	10%
NEC (25%)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15		
Target	8	8	8	8	8	8	8	8		
Complete		16	24	32	40	48	56	64		
									% of Program Goal - OBO Capital Funding Projects	25%
								Total to replace	180	
								Completed to date	-56	
								Under Construction	-34	
								Total left to replace	90	
ESPC (65%)	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15		
Target	15	30	30	30	30	20	10	0		
Complete		45	75	105	135	155	165	165		
									% of Program Goal - Private Sector Projects	65%



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MEASURING UP

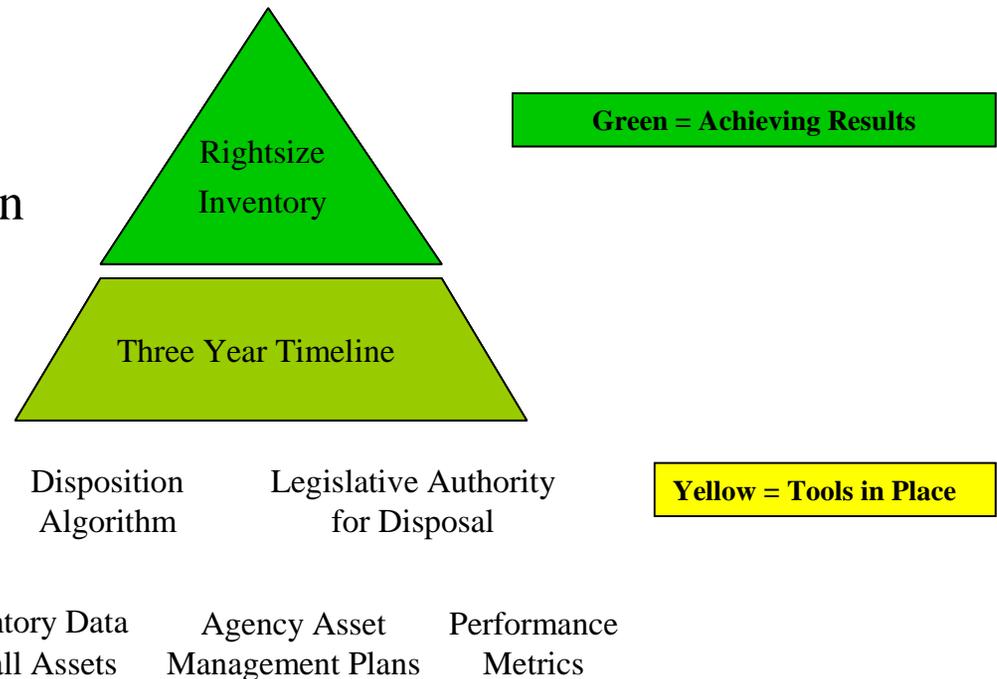




Measuring Up PMA Federal Real Property Initiative

Focuses on achievements in four key areas:

- Eliminating surplus assets
- Operating at the right cost
- Ensuring critical assets in condition
- Compliance with requirements of Federal Real Property Initiative



Inventory Data and Performance Measures are tracked through OBO's Real Property Inventory Database and then reported to the Federal Real Property Profile (FRPP), maintained by GSA



Measuring Up PMA Federal Real Property Initiative

	Data Element		Data Element		Data Element
1	Real Property Type	9	Utilization	17	State
2	Real Property Use	10	Value	18	Country
3	Legal Interest	11	Condition Index:	19	County
4	Status	12	Mission Dependency	20	Congressional District
5	Historical Status	13	Annual Operating Costs	21	Zip Code
6	Reporting Organization	14	Main Location	22	Installation/Sub-Installation ID
7	Using Organization	15	Real Property Unique ID	23	Restrictions
8	Size	16	City	24	Disposition
25	Applicability of Executive Order to Asset				
26	Meets Sustainability Goals of the Executive Order				

Currently 24 data elements in FRPP. 2 new elements to be added per EO 13423.

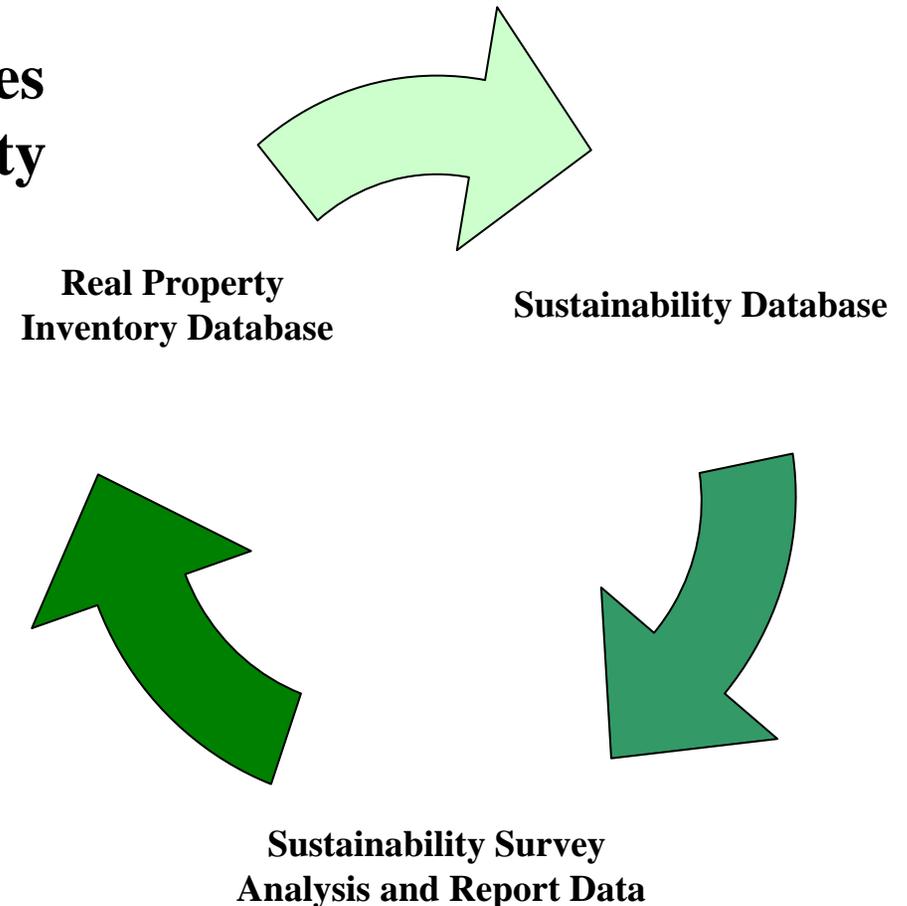
**FRPP will track success in meeting the
15% goal by 2015 through these elements.**



Measuring Up PMA Federal Real Property Initiative

OBO's Sustainability Database uses Property IDs from Real Property Inventory Database

- Post data tracked in database by Property ID
- Sustainability data will be sent back to the Real Property Inventory Database to track progress for the Federal Real Property Initiative.

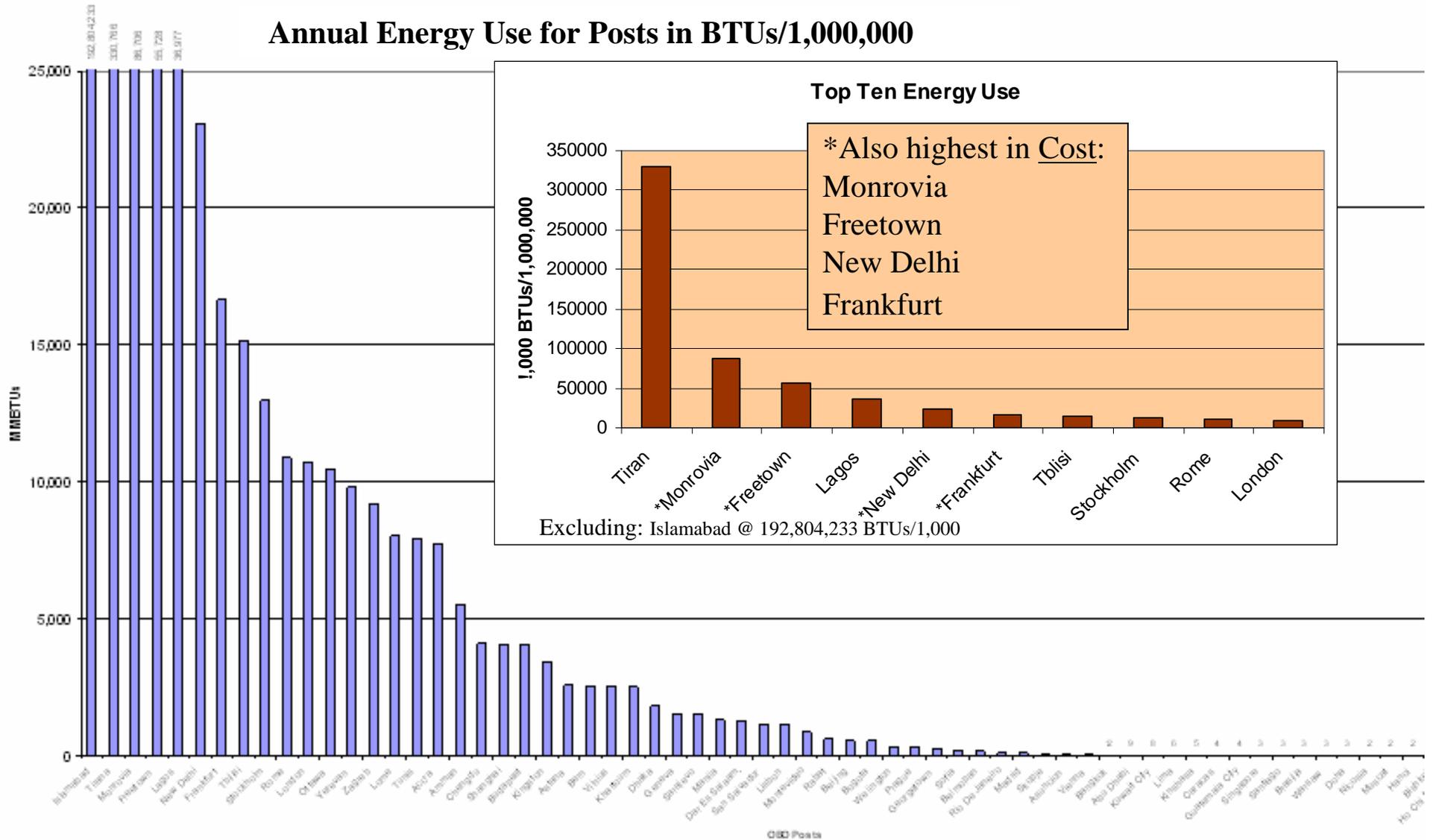


**The data from the sustainability reports will be reported in
two elements in the Real Property Inventory Database**



Measuring Up Energy Use by Post for 2007

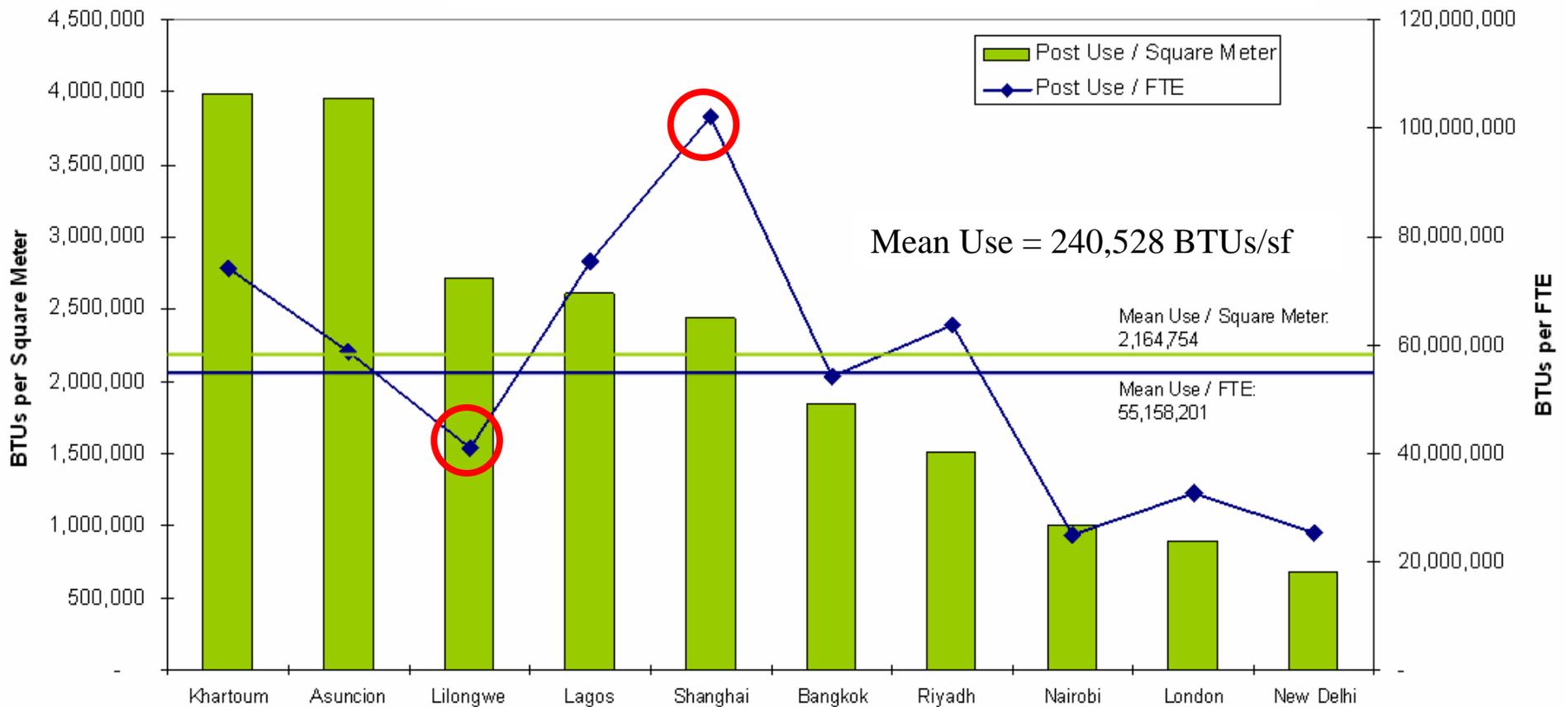
Annual Energy Use for Posts in BTUs/1,000,000





Measuring Up Energy Use by m² & FTE

Energy Use by m² and FTE





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GETTING IT DONE: EXISTING FACILITIES

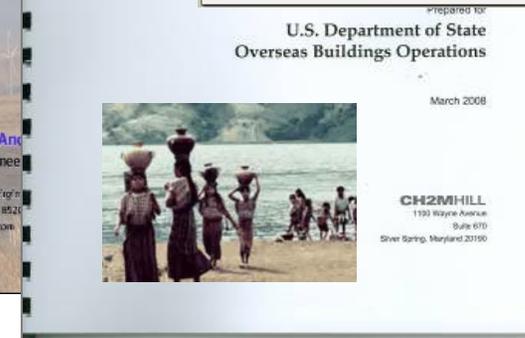
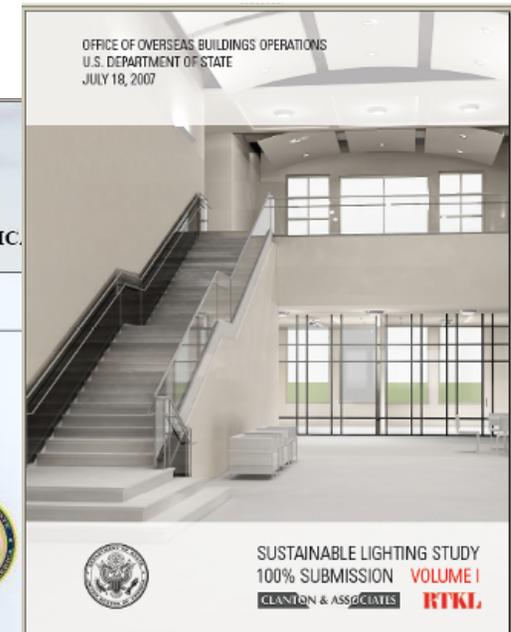
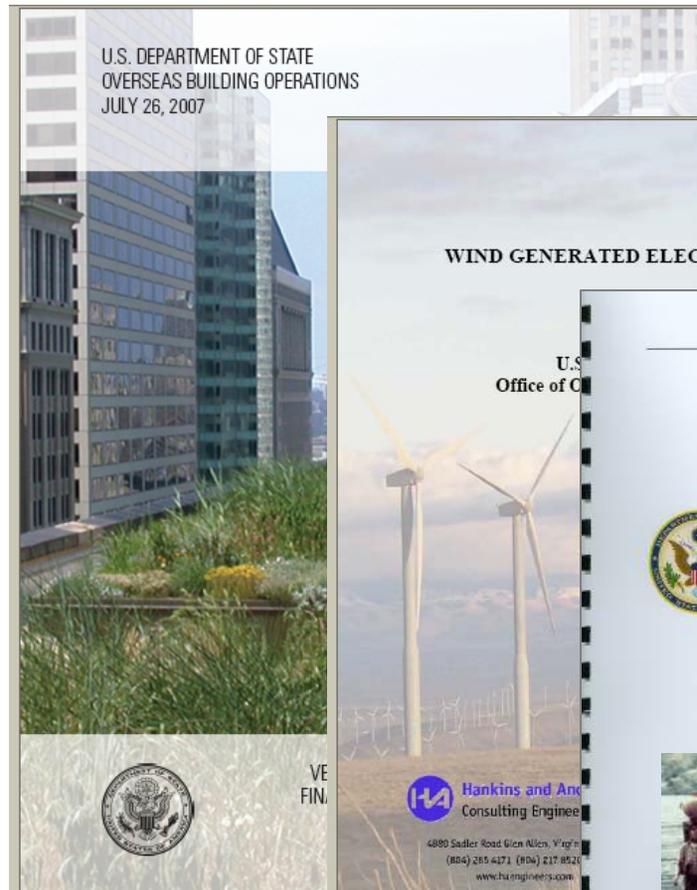




Getting it Done – Existing Facilities Sustainability Studies and Reports

The following studies and reports support both new and existing facilities:

- Wind
- Vegetative Roofs
- Sustainable Lighting
- Water Resources
- Photovoltaics
- *Coming soon:*
 - Metering
 - LED

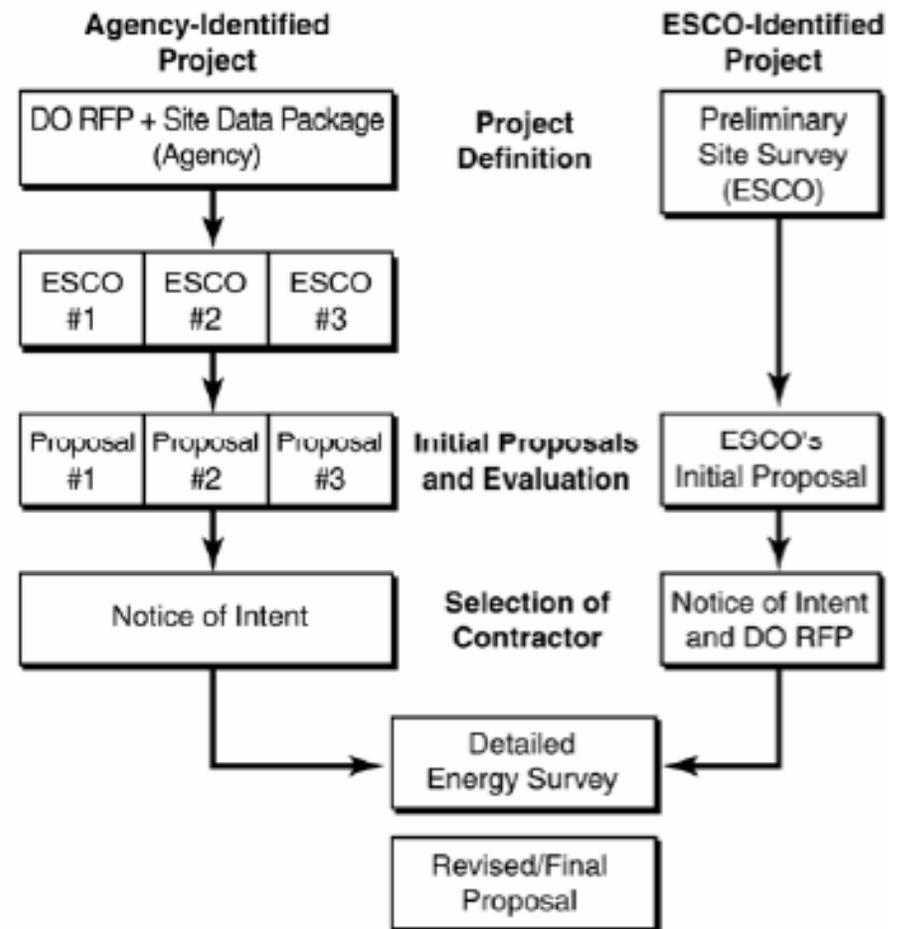




Getting it Done – Existing Facilities Energy Savings Performance Contracting (ESPC)

ESPC - private funding paid by project energy savings over time.

- **Recommended** by *Energy Independence and Security Act, signed Dec. 19th, 2007.*
- **Contractors & Assistance** through DOE/FEMP ESPC Contractors by April 1, 2008
- **Contract support** by OBO/OM/AM at 1% of project cost funded by project
- **Bundling of measures** into combined projects to achieve sufficient savings within reasonable payback period
- **Post Management and Contractor Payment** - lower O&M and utility costs pay the ESPC over time





Getting it Done – Existing Facilities Energy Savings Performance Contracting (ESPC)

FEMP Interagency Savings Estimates:



ESET 2006 Phase I - Annual Consumption & Estimated Potential Savings (MMBTU)

# of sites	Site		Consumption Natural Gas	Savings Natural Gas	Consumption Electricity	Savings Electricity
1	BOP	Allenwood FCC	177,385	20,708	108,810	10,211
2	DHS	USCG Cape May	112,000	1,477	41,120	691
3	DOD	Eglin AFB	451,215	13,666	887,372	0
4	DOD	Hill AFB	1,283,121	99,290	914,089	4,101
5	DOD	Robins AFB	1,016,397	91,180	1,121,909	12,400
X	XXX	XXX	XXX	XXX	XXX	XXX
20	GSA	D'Amato USCH FB	34,790	4175	47610	3875
21	GSA	Moynihan USCH	24,998	1,368	47,493	7,689
22	GSA	Denver Federal Center	385,892	117,037	129,464	863
23	GSA	Johnson USCH	18,023	10943	24,425	10,907
24	GSA	Mazzoli FB	6,186	1,755	27,984	2,555
25	HHS	Parklawn Building	23,639	3,709	67,257	8,100
26	NASA	Glenn Research Center	511,567	31,253	656,294	0
27	VA	VAMC-Detroit	222,427	39,940	111,236	14,172
28	VA	VAMC-Charleston	38,218	2,410	47,978	1,095
Totals			10,940,011	970,764	11,447,596	183,654



Getting it Done – Existing Facilities

ESPC Photovoltaic Projects

Photovoltaics: OBO Prioritization Listing **by Payback:**

Rank	FY NEC	Post	Country	kW PV	Project Cost (Total)	Annual Savings	Simple Payback (Years)	Utility Rate \$/kWh
1	10	N'Djamena	Chad	300	\$3,085,000	\$1,955,088	2	\$1.21
2		Abuja - Spectrum	Nigeria	100	\$1,085,000	\$670,948	2	-
3		Abuja - NOX	Nigeria	125	\$1,085,000	\$671,104	2	-
4		Rangoon	Burma	250	\$2,585,000	\$671,882	4	-
5	09	Monrovia	Liberia	500	\$4,085,000	\$1,106,718	4	\$0.00
6	10	Santo Domingo	Dominican Republic	500	\$4,085,000	\$1,043,485	4	\$0.40
7	05	Kigali	Rwanda	419	\$4,275,000	\$973,385	5	\$0.45
8	05	Port-Au-Prince	Haiti	339	\$4,390,000	\$889,466	5	-
9	06	Harare	Zimbabwe	569	\$4,637,000	\$863,245	6	\$0.15
10	06	Djibouti	Djibouti	569	\$4,637,000	\$821,817	6	\$0.40
11	07	Ouagadougou	Burkina Faso	569	\$4,637,000	\$770,991	6	\$0.40
12	07	Johannesburg	South Africa	569	\$4,637,000	\$767,662	6	\$0.30
13		Kabul	Afghanistan	250	\$2,085,000	\$344,801	6	-
14		Athens	Greece	404	\$2,711,000	\$557,506	6	\$0.12
15	09	Valletta	Malta	250	\$2,085,000	\$338,731	7	\$0.30
16		Managua	Nicaragua	569	\$5,775,000	\$705,489	8	\$0.20
17	06	Beirut	Lebanon	569	\$4,637,000	\$706,291	7	\$0.30
18	06	Khartoum	Sudan	347	\$2,861,000	\$402,951	7	\$0.40
19	08	Juba	Sudan	1000	\$11,085,000	\$1,569,768	7	-

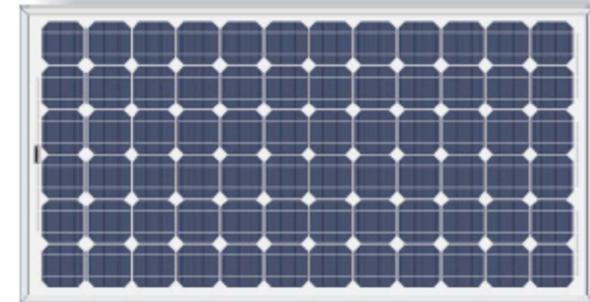


Getting it Done – Existing Facilities

ESPC Photovoltaic Projects

Photovoltaics: = ~\$4.2M First Cost w/ \$168M Savings

- **Economic benefits:** Passive power production with no fuel cost
 - 4–year payback for new construction depending on utility/fuel costs
 - Supplement prime power source – reducing generators in prime plant
 - Reduces electrical source use during peak load
 - LOW Maintenance – Passive system only requires periodic cleaning
 - Modular and able to be phased
- **System:** PV Panels, Inverters, & Mounting
 - Installation on large open roof areas
- **Other benefits:**
 - Increased security through independence/control of power source



Typical PV Panel



**OBO's Photovoltaic Installation
Geneva, Switzerland**



Getting it Done – Existing Facilities

ESPC - MagLev Chiller Projects

MagLev Chillers = \$.5M First Cost w/ \$19M Savings (7-yr payback)

- **Economic benefits:** Variable speed high efficiency modular cooling capacity with lower utility/fuel cost.
 - Reduces Power Usage – 1 k - 0.5 kW/ton of cooling
 - 6-7-yr payback – depending on utility/fuel costs
 - Lower Maintenance – oil free magnetic bearings reduce wear and maintenance
 - Modularity - additional capacity at minimum cost
 - No Cooling Tower – reduces water usage and minimizes chemical usage
- **System:** Compressors, condensers and controls
 - Low noise, frictionless bearings, variable frequency drive, permanent magnet rotors, compact.
 - Projects currently initiated Tokyo and Geneva
- **Savings:**
 - Reduction of generator size and fuel consumed in prime power plants.
 - Adjustable capacity Minimum production during low demand and subsequently low energy usage.
 - Modules can be added to match increasing loads.



High Efficiency Compressor



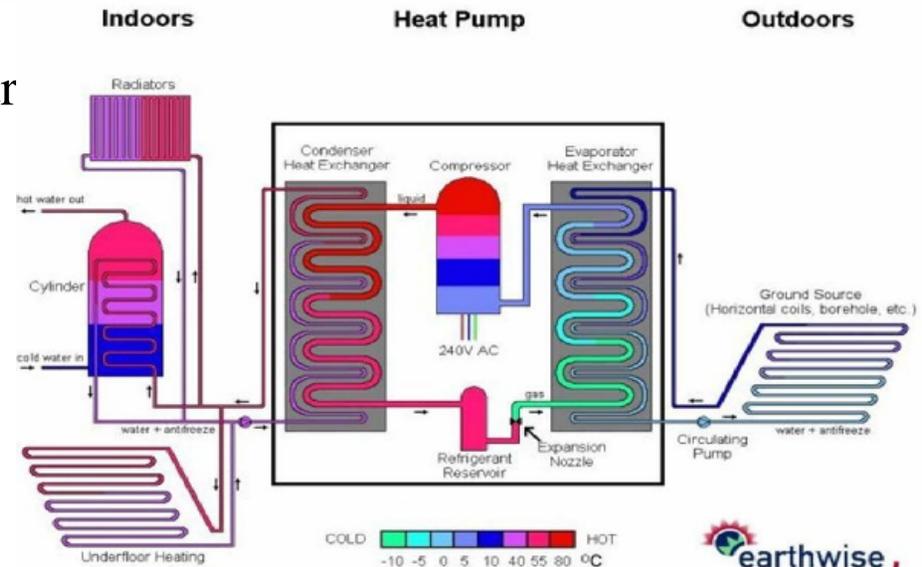
**OBO's MagLev Chillers
Tokyo, Hong Kong**



Getting it Done – Existing Facilities Energy Savings Performance Contracting (ESPC)

Examples of Energy Savings Performance Contracts (ESPCs)

- Mexico City: Lighting, motors and controls
1999- \$0.58M 9-yr contract;
- Seoul: Geothermal heat pumps
2001- \$12.5M 19-yr contract;
- Santo Domingo: Lighting and controls
2005- \$0.72M 10-yr contract;
- Dhaka: Gas turbine generators
2007- \$0.72M 11-yr contract;



Geothermal Heat Pump System



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GETTING IT DONE: NEW CONSTRUCTION





Getting it Done – New Construction Planning

Planning for Energy Conservation

- **Initial Planning Survey (IPS)** – confirms utility availability and rates, local use of renewable energy, local codes, zoning, local availability of materials and technology.
- **Project Budget** – established with Green features based on life cycle cost analysis.
- **Integrated Planning Review (IPR)** – develops design, informs costs/VE, budget impact revealed and space requirements defined.
- **Project Analysis Package (PAP) & RFP** – establishes performance criteria, codes and standards to be used during project execution—final design and construction.



Getting it Done – New Construction FY09 Recommendations

Energy & Sustainable Design Program (ESDP)		Primary recommendations for project cost				
Project	Budget	Item A LEED Certification	Item B Photovoltaics	Item C Wind Power	Item D LED Site Lighting	Item E Sustain. Lighting
FY10 TOTAL 1st Cost	\$14,423,626	\$27,134	\$5,770,000	\$0	\$1,240,000	\$4,411,291
FY10 TOTAL Savings	\$65,657,037	\$52,990	\$11,377,078	\$0	\$27,586,180	\$14,703,844
Asuncion	\$1,677,284	\$3,484			\$210,000	\$590,300
Paraguay	\$0					
50-Year Savings	\$4,759,914	\$13,210			\$1,322,961	\$1,967,604
NEC LRBP Budget	\$132,100,000	9,248gsm or 99,5456gsf = (\$2,489 + \$995)	128 - gear payback		12.67 - gear payback	
Bujumbura	\$2,558,506	\$2,526	\$1,685,000		\$210,000	\$427,980
Burundi	\$0					
50-Year Savings	\$7,466,430	\$10,510	\$2,351,000		\$1,322,961	\$1,426,556
NEC LRBP Budget	\$105,100,000	6,705gsm or 72,172gsf = (\$1,804 + \$722)	12 - gear payback		12.67 - gear payback	
The Hague	\$894,668	\$2,645			\$210,000	\$448,023
Netherlands	\$0					
50-Year Savings	\$4,017,882	\$13,640			\$1,322,961	\$1,493,362
NEC LRBP Budget	\$136,400,000	7,019gsm or 75,552gsf = (\$1,889 + \$756)	53 - gear payback		12.67 - gear payback	
Jakarta	\$2,190,443	\$8,396			\$170,000	\$1,436,047
Indonesia	\$500,000					



Getting it Done – New Construction OBO's 1st LEED Certification

NEC for Sofia, Bulgaria earned 7 Prerequisites and 26 Points:

- 37% Better than ASHRAE
- Brownfield Redevelopment
- Ozone Protection
- No Chemical Water Treatment
- Enhanced Indoor Air Quality
- Tree Preservation
- Building as Educational Tool





Getting it Done – New Construction OBO's 2nd LEED Certification

NEC for Panama City earned 7 Prerequisites & 26 Points:

- 35% Better than ASHRAE
- Ozone Protection
- Water Efficient Landscaping
- Regional Materials
- Low Emitting Materials
- Enhanced Indoor Air Quality
- Building as Educational Tool





Goal Setting

FY08 Projects LEED Certified

Sustainable Sites				Possible Points	14	Materials & Resources				Possible Points	13			
6	1	3	4			3	5	6						
Y				Prereq 1	Construction Activity Pollution Prevention		Y			Prereq 1	Storage & Collection of Recyclables			
		1		Credit 1	Site Selection	1			1	Credit 1.1	Building Reuse: Maintain 75% of Existing Walls, Floors, & Roof			
			1	Credit 2	Developmental Density & Community Connectivity	1			1	Credit 1.2	Building Reuse: Maintain 95% of Existing Walls, Floors, & Roof			
			1	Credit 3	Brownfield Redevelopment	1			1	Credit 1.3	Building Reuse: Maintain 50% Shell & 50% Interior Non-Structural Element			
		1		Credit 4.1	Alternative Transportation: Public Transportation Access	1	1			Credit 2.1	Construction Waste Management: Divert 50% From Disposal			
1				Credit 4.2	Alternative Transportation: Bicycle Storage & Changing Rooms	1		1		Credit 2.2	Construction Waste Management: Divert 75% From Disposal			
			1	Credit 4.3	Alternative Transportation: Low Emission & Fuel Efficient Vehicles	1			1	Credit 3.1	Materials Reuse: 5%			
1				Credit 4.4	Alternative Transportation: Parking Capacity	1			1	Credit 3.2	Materials Reuse: 10%			
			1	Credit 5.1	Site Development: Protect or Restore Habitat	1	1			Credit 4.1	Recycled Content: 10% (post-consumer + 1/2 pre-consumer)			
1				Credit 5.2	Site Development: Maximize Open Space	1		1		Credit 4.2	Recycled Content: 20% (post-consumer + 1/2 pre-consumer)			
	1			Credit 6.1	Stormwater Design: Quantity Control	1	1			Credit 5.1	Regional Materials: 10% Extracted, Processed, & Manufactured Regionally			
		1		Credit 6.2	Stormwater Design: Quality Control	1		1		Credit 5.2	Regional Materials: 20% Extracted, Processed, & Manufactured Regionally			
1				Credit 7.1	Heat Island Effect: Non-Roof	1			1	Credit 6	Rapidly Renewable Materials			
1				Credit 7.2	Heat Island Effect: Roof	1			1	Credit 7	Certified Wood			
1				Credit 8	Light Pollution Reduction	1								
Water Efficiency				Possible Points	4	Indoor Environmental Quality				Possible Points	15			
3		2				6	2	6	1					
1				Credit 1.1	Water Efficient Landscaping: Reduce by 50%	1	Y			Prereq 1	Minimum IAQ Performance			
		1		Credit 1.2	Water Efficient Landscaping: No Potable Water Use or No Irrigation	1	Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control			
			1	Credit 2	Innovative Wastewater Technologies	1	1			Credit 1	Outdoor Air Delivery Monitoring			
1				Credit 3.1	Water Use Reduction: 20% Reduction	1	1			Credit 2	Increased Ventilation			
1				Credit 3.2	Water Use Reduction: 30% Reduction	1		1		Credit 3.1	Construction IAQ Management Plan: During Construction			
								1		Credit 3.2	Construction IAQ Management Plan: Before Occupancy			
								1		Credit 4.1	Low-Emitting Materials: Adhesives & Sealants			
								1		Credit 4.2	Low-Emitting Materials: Paints & Coatings			
								1		Credit 4.3	Low-Emitting Materials: Carpet Systems			
								1		Credit 4.4	Low-Emitting Materials: Composite Wood & Agfiber Products			
								1		Credit 5	Indoor Chemical & Pollutant Source Control			
								1		Credit 6.1	Controllability of Systems: Lighting			
								1		Credit 6.2	Controllability of Systems: Thermal Comfort			
								1		Credit 7.1	Thermal Comfort: Design			
								1		Credit 7.2	Thermal Comfort: Ventilation			
								1		Credit 8.1	Daylight & Views: Daylight 75% of Spaces			
								1		Credit 8.2	Daylight & Views: Views for 90% of Spaces			
Energy & Atmosphere				Possible Points	17	Innovation & Design Process				Possible Points	5			
4	1	5	7			4	1							
Y				Prereq 1	Fundamental Commissioning of the Building Energy Systems		1			Credit 1.1	Innovation in Design: Increased Life Safety - Security			
Y				Prereq 2	Minimum Energy Performance - CFR434/ASHRAE 90.1-1999		1			Credit 1.2	Innovation in Design: Acoustics			
Y				Prereq 3	Fundamental Refrigerant Management		1			Credit 1.3	Innovation in Design: Enhanced IAQ			
2				Credit 1.1	Optimize Energy Performance: 20% New / 10% Existing	2				Credit 1.4	Innovation in Design: Project Specific			
		2		Credit 1.2	Optimize Energy Performance: 30% New / 20% Existing	2				Credit 2	LEED™ Accredited Professional			
		2		Credit 1.3	Optimize Energy Performance: 40% New / 30% Existing	2								
			2	Credit 1.4	Optimize Energy Performance: 50% New / 40% Existing	2	1							
			2	Credit 1.5	Optimize Energy Performance: 60% New / 50% Existing	2								
			1	Credit 2.1	On-Site Renewable Energy: 5%	1		1						
			1	Credit 2.2	On-Site Renewable Energy: 10%	1								
			1	Credit 2.3	On-Site Renewable Energy: 20%	1								
1				Credit 3	Enhanced Commissioning	1								
1				Credit 4	Enhanced Refrigerant Management	1								
	1			Credit 5	Measurement & Verification	1								
			1	Credit 6	Green Power	1								
					<div style="text-align: center;"> </div>									
					<div style="display: flex; justify-content: space-between; align-items: center;"> 28 5 21 17 Total Project Score </div>					<div style="display: flex; justify-content: space-between; align-items: center;"> Total Points 69 </div>				



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Eco-DIPLOMACY





Eco-Diplomacy

The League of Green U.S. Embassies



Policy
Public Diplomacy
Resource Management

A consortium of US embassies interested in shaping American eco-diplomacy efforts worldwide

League of Green U.S. Embassies:

"The United States takes seriously the challenges of energy security and climate change. We are committed to working constructively with our partners abroad to find a new way forward that will reduce greenhouse gas emissions, strengthen energy security, support prosperity and sustainable development, and advance negotiations under the United Nations Framework Convention on Climate Change."

President George W. Bush



Eco-Diplomacy The League of Green U.S. Embassies



League of Green U.S. Embassies:

- **Share best practices on greening our missions**
 - **Act collectively to obtain funding**
 - **Use public affairs to highlight our green practices**
-
- ✓ **17** embassies joined to date
 - ✓ **US collaboration** with local government and private sector greening initiatives
 - ✓ **Web-portal** for sharing of best practices, case studies, and energy saving tools and strategies
 - ✓ **OBO support** via development of Green Guide for sustainable operation & maintenance of embassy properties

League of Green U.S. Embassies:

Members of the league pledge to:

- ✓ **Provide leadership at our Embassies by exemplifying and encouraging personal actions that will lead to reductions in greenhouse gas emissions;**
- ✓ **Increase the use of renewable energy and to begin taking action to reduce energy usage at our Embassies by 30 percent by 2015;**
- ✓ **Institute Embassy recycling programs to the extent possible for bottles, cans and paper;**
- ✓ **Establish an energy conservation program at each of our Embassies for all USG properties under COM authority;**
- ✓ **Work with Secretary of State Rice in seeking additional funding for the Overseas Building Office Energy Conservation and Sustainable Design Program;**
- ✓ **Share ideas on how to improve the energy efficiency of our buildings;**
- ✓ **Cooperate with our counterparts on energy efficiency and other strategies for reducing greenhouse gas emissions.**



Eco-Diplomacy

The League of Green U.S. Embassies

Web-portal - share best practices, case studies, and energy saving tools & strategies

Address <http://collaborate.state.gov/p/eea/stockholm/LGE/default.aspx> Go Links

Department of State Collaboration > League of Green Embassies Welcome McIntire, Donna M | My Site | My Links |

League of Green Embassies

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This site is for the collaboration and cooperation efforts of embassies world-wide to become more energy efficient.

Announcements

Title	Modified
How to become a contributing member	2/13/2008 9:02 AM
List of League Members as of April 1, 2008 - No Fooling!	4/1/2008 9:27 AM
Ambassador Wood's message to League members - April 2008 ! NEW	4/7/2008 11:07 AM

Add new announcement

Best Greening Practices

Type	Name	Created By	Checked Out To
	Madrid Initiatives	Hartssock, Linda	
	Luxembourgmemo	Teirlynck, Mary J	
	NATURAL LIGHT WEEK	Hartssock, Linda	
	Low-e guide 08	Teirlynck, Mary J	
	DoE memo on energy in federal buildings	Hilton, Robert B	
	Green Award Certificate	Teirlynck, Mary J	
	Budapest Energy Memo Feb07	Teirlynck, Mary J	
	Budpest Electric Power JAN08	Teirlynck, Mary J	
	Budpest Energy Survey CMR	Teirlynck, Mary J	
	Green Award Policy	Teirlynck, Mary J	
	Stockholm Initiatives Feb. 2008	Teirlynck, Mary J	

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Green Public Diplomacy

Type	Name	Created By	Checked Out To
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Partners for Cleaner Energy

Green News

Add new news item

Green Links

- [U.S. DOE Energy Efficiency and Renewable Energy Home Page](#)
- [Federal Energy Management Program](#)
- [The Green Power Network](#)
- [Stockholm's One Big Thing Website](#)
- [Climate Action Partnership, collaboration between businesses and NGOs](#)
- [Combat Climate Change, the Vattenfall initiative that is a model for the Green League](#)
- [Mission Geneva's solar energy project webpage](#)

Add new link

Contributors

- Adams-Smith, Steve P
- Aguirre, Eduardo
- Austin-Ferguson, Kathleen T



Eco-Diplomacy

The League of Green U.S. Embassies

Embassy London Savings:

- Replacement of incandescents with compact fluorescents reduces energy consumption by 82.5% per light.
- Installation of waterless urinals has reduced water consumption by 600,000 liters annually.
- Fuel cell at residence.



London Fuel Cell



Eco-Diplomacy OBO GreenGuide for Posts



for
**Embassy & Consulate Facility
Operation & Maintenance**



U.S. DEPARTMENT OF STATE
OVERSEAS BUILDING OPERATIONS



SITE

Natural wetland systems have often been described as the "earth's kidneys" because they filter pollutants from water that flows through on its way to receiving lakes, streams and oceans. Because these systems can improve water quality, engineers and scientists construct systems that replicate the functions of natural wetlands.



WATER

The Saguaro is the ultimate water harvester-sucking up as much water as possible when it rains. The trunk and arms are pleated like an accordion and can expand or contract with the amount of water taken in. Saguaro roots extend to a diameter of 100 feet (for a 50-foot-high Saguaro) at a depth of only inches. Tiny hairs absorb even concentrated drizzle or mist.



ENERGY

The potential of solar power in the Southwest United States is comparable in scale to the hydropower resource of the Northwest. A desert area 10 miles by 15 miles could provide 20,000 megawatts of power, while the electricity needs of the entire United States could theoretically be met by a photovoltaic array within an area 100 miles on a side.



MATERIAL

The gecko can support his entire body with one toe. Biomimicry scientists are studying the microscopic hairs (setae) of gecko's toes as a model for developing the first dry, self-cleaning adhesive



INDOOR ENVIRONMENT

Termites have designed their structures to perfectly balance the raging heat of the day and the bitter cold of the night; naturally ventilating their environment to an even 78 °F.



TRANSPORTATION

Ruby-Throated Hummingbirds fly ~27 miles per hour on their 18.5 hour migration flight across the Gulf of Mexico without refueling.

That is fuel efficiency worth mimicking.